This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-7. (Canceled)

8. (Currently Amended) A computer program product for use in a material transport system including a plurality of electromechanical devices and a control logic computer, wherein the control logic computer computer program product includes a computer memory coupled to the control computer and a computer mechanism defined therein, the computer mechanism comprising:

a first control thread threads configured that configure the control computer to control and monitor operations of a first the electromechanical device devices;

a second control thread configured to control and monitor operations of a second electromechanical device;

wherein said first control thread communicates with said second control thread so that said first control thread and second control thread one of the control threads associated with a particular electromechanical device communicating with others of the control threads associated with a group of electromechanical devices that interact with the particular electromechanical device so that the one control thread and the others cooperatively accomplish a goal involving movement of material using said first the particular electromechanical device and said second the group of electromechanical device devices.

9. (Currently Amended) The computer program product of Claim 8, wherein:

said first the particular electromechanical device operates within is a first particular track zone and a second the group of electromechanical device devices operates within a second are other track zone zones neighboring said first the particular track zone, each of the track zones being configured to accelerate the material;

such that the one thread causes the particular track zone to accelerate the material to a target value, determines a set of future target values to which the material should be accelerated by the other track zones, and issues commands to the others of the control threads indicating respective ones of the set of future target values.

10-29. (Canceled)

30. (New) The computer program product of Claim 9:

wherein said first track zone and said second track zone are operable to accelerate material units being transported within them; and

wherein said first control thread causes said first track zone to accelerate a first material unit to a first target value, determines a second target value to which said first material unit should be accelerated by said second track zone, and issues a command to said second control thread indicating said second target value.

31. (New) The computer program product of Claim 30, wherein said material units comprise semiconductor wafers and said first track zone and said second track zones are used to transport said semiconductor wafers between processing stations.

32. (New) The computer program product of Claim 9, further comprising:

a third control thread configured to control and monitor operations of a third electromechanical device;

said third electromechanical device operates within a third track zone neighboring said first track zone and said second track zone.

33. (New) The computer program product of Claim 8 wherein said first electromechanical device comprises at least one of:

a zone including a length of track, at least one drive motor and at least one sensor;

a director providing rotational movement between zones; and

a Load Port Transfer Device (LPTD).

34. (New) The computer program product of Claim 8 wherein said material transport system comprises a transport system employed in a manufacturing facility selected from a flat panel display manufacturing facility, a magnetic storage disk drive manufacturing facility or a pharmaceutical manufacturing facility, such that:

when used in the flat panel display manufacturing facility, the material transport system is used to move flat panels or flat panel components between flat panel manufacturing stations;

when used in the magnetic storage disk drive manufacturing facility, the material transport system is used to move magnetic storage disks or disk assemblies between disk drive manufacturing stations; and

when used in the pharmaceutical manufacturing facility, the material transport system is used to move pharmaceutical components between pharmaceutical manufacturing stations.

35. (New) The computer program product of Claim 8 further comprising:

a first low-level controller coupled to said control logic computer and to said first electromechanical device wherein said first control thread communicates with said first low-level controller.

36. (New) The computer program product of Claim 35 wherein said first low-level controller is a first zone controller associated with a first track zone, wherein:

said first zone controller is configured to control and receive zone status information and to send messages to and receive messages from said first zone thread.

37. (New) The computer program product of Claim 36 wherein said first zone thread is configured to:

determine using said zone status information when material is entering said first

track zone;

determine from stored information updated by a neighboring, upstream zone thread an entry speed at which the material is entering the respective track zone;

issue a motor control command to the respective track zone to establish the speed of the material in accordance with a speed profile message forwarded by the upstream zone thread and the entry speed;

determine from the stored information updated by neighboring, downstream zones the speed at which the material should enter a neighboring downstream zone;

determine from a potential entry speed and location of a destination of the material a speed profile of the material in one or more neighboring, downstream zones; and

send the speed profile message to the one or more neighboring, downstream zones causing the speed profile to be executed.